

THE SPACE SPORTS  
MANIFESTO

# THE SPACE SPORTS MANIFESTO

*A Summons*

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# EXORDIUM

## *Variations on a Boy*



THERE WAS ONCE A MAN WHO, SINCE childhood, had been troubled by the story of Icarus, and now that he had grown old he could not stop returning to it. The story is told quickly. A father, a son, a pair of wings, a fall. Three thousand years of moralists have agreed on what it means. The boy was proud. The boy did not listen. The boy got what he had coming.

The man, when he was honest with himself, knew the agreed reading was the one piece of the story he could not believe. He had spent his life looking at his own children, and he had never once seen, in any of them, the kind of pride the moralists put in Icarus. He had seen joy. He had seen wonder. He had seen recklessness, which is something different. He had seen the grin a boy makes when a tool that should not work does work, and the grin

had nothing in it of pride. The grin was older than pride. The grin was the grin of an animal that has just learned what its body can do.

So when he returned to the story, he returned without the moralists, and he tried to imagine the boy.

He imagined first an Icarus who climbed because he was escaping. The Labyrinth was Daedalus's masterpiece. Minos, having received the masterpiece, did what kings have always done with masterpieces — he locked away the maker, so that no rival court would ever commission a second one. The maker's son was locked away with him. Icarus had spent his childhood inside walls his own father had been compelled to design. The Labyrinth had been built to contain a monster, and now it contained the maker, and the maker's son, who had committed no crime except being born. When the wings worked, when the wax held, when the boy felt the upward thrust of his own father's competence for the first time as something other than a wall — the boy did not rise out of pride. The boy rose into the first un-imprisoned air of his life. The rising was, in the strict sense of the word, joy: the joy of a body in lifelong confinement, finally not confined.

He imagined next an Icarus who rose not to escape but because the wings had taught him something the ground had been hiding. On the ground the body works. In the air the body is. The first Icarus had a destination. The second Icarus had no destination. The second Icarus rose because the act of rising was the act of being a body in the only place a body had ever been free, and the body, having found the place, did not consult the father about whether

to go further into it. The father called. The boy did not hear. Not because the boy was disobedient — because the boy was, for the first time in his life, fully somewhere. The fall, when it came, was the price of having been somewhere. The fall was not the lesson. The being-somewhere was.

He imagined next an Icarus who knew the wax was failing and rose anyway. This is the Icarus the moralists most fear. This is the Icarus who looks at the wing, sees the bead of softening wax, and chooses to take one more pull of altitude. The moralists call this pride. The man, by now, called it something else. He called it the moment a body asks itself whether the joy is worth the joy's end, and answers yes. He called it the moment a young animal becomes a creature with a relationship to its own death — chooses, knowingly, to spend a finite quantity of life on a thing the life would not have made any sense without. The third Icarus is not a fool. The third Icarus is the first philosopher. The third Icarus is the boy who discovers, in a single afternoon on borrowed wings, that the species' moral vocabulary has been built backward — that what the elders called recklessness was a calculation, and what the elders called wisdom was the refusal to make the calculation at all.

He imagined last an Icarus who thought none of this. The fourth Icarus rose because he was rising. The fourth Icarus is the boy with no inner monologue, the boy whose body has not yet learned to narrate itself, the boy for whom the upward motion of the wings is identical with the upward motion of the world, and the joy is the joy

because the joy is. The fourth Icarus dies without an opinion. The fourth Icarus, of the four, is the one closest to the truth, because the fourth Icarus is the one most like the body itself. The body does not ask why it rises. The body rises.

The man, having imagined his four Icaruses, returned to the moralists and saw them differently. The moralists had been reading the myth from the outside — from the ground, from the village, from the elders. They had been reading the fall and ignoring the air. They had been moralizing the smoke and missing the flame. The species had inherited their reading because the reading was useful: it kept the young safe, it kept the wax in the cupboard, it kept the wings unbuilt. It had been a survival reading. It had also been a lie. The boy had not been proud. The boy had been free. And every reading since has been the species refusing to admit, in its own founding myth of the ascent, what its founding boy was actually doing.

This document is for the species' confession. It begins now, three thousand years late.

# I

## PROLOGUE



THE FIRST DECISION OF EVERY HUMAN DAY IS older than the day. It is the decision to rise. Sleep is the body's one honest surrender — eight hours horizontal, parallel to the planet, willing to be flattened. To wake is to re-elect, in a single half-conscious gesture of the spine, the verticality the day will require. The pillow leaves the back of the head. The feet swing to the floor. The body, unrepresented in the upward axis all night, restores itself. The decision is small. The decision is eternal.

The decision extends. Second by second through the entire day, the body maintains the upward-directed vector as a command it never issued. The maintenance is

unconscious. The maintenance is continuous. It runs in the immanence of sensation — present without being thought, felt only as background, the way a heart beats. The postural muscles fire all day without your permission. The soleus runs. The erector spinae runs. The deep musculature of the trunk and hip, the long-distance servants of verticality, run continuously and report nothing. You do not feel them holding you up. You feel only their absence at the end of the day, when the body lies down at last and the long sustaining is forgiven. Sleep is what you owe the muscles that kept you vertical. Sleep is the debt. The morning rise is the renewed commitment.

Between the morning rise and the evening collapse, the body moves. It moves almost exclusively sideways. Forward, backward, across the room, down the street, across continents and across oceans. Skittering, gently self-hoisted, across the two-dimensional membrane of the planet. The third axis is permitted only in stolen moments. A jump. A reach. A parabola whose endpoint the planet has already decided. The vertical is the axis you do not live in. The vertical is the axis the planet has administered on your behalf for the entirety of the species' tenure as an upright animal.

You have been falling, in a controlled way, your entire life. Every breath has been taken against a force that wants to flatten you. Every step has been a recovered fall. Every night's sleep has been a temporary surrender to the direction you have spent the day resisting. The fall is the constant. The rise is the work.

And we look up at the birds.

We have always looked up at the birds. We have made wax wings for them. We have built cathedrals reaching for them. We have launched balloons and gliders and rockets for them. We have sung songs about them in every language that has ever had songs. The longing is so old it does not feel like longing anymore. It feels like background. It feels like wallpaper. But it is the longing that has lifted every cathedral and every rocket and every flag the species has ever planted somewhere it should not have been able to plant a flag. The bird is what the body recognizes as a body more complete than its own — a body permitted the third axis the body was built for and denied. The recognition is older than language. Pre-verbal children point at birds. The pointing is not learned. The pointing is the body saying *that one*, aloud, in the only vocabulary the body still owns.

We look up at the birds because the body is doing, in miniature, what they do at scale. Every step is a small refusal of the plane. Every breath is a flame, organized against the flattening. The cathedral rises because the eye that built it rises. The mason knew the direction before he had the word for it. The species has been climbing in every direction at once, in every century, in every tradition, and has not, until very recently, been honest with itself about what the climb is for.

Life, like fire, is a rising. The chemistry of a candle and the chemistry of a child are the same kind of refusal — matter, locally, declining to settle. The flame burns upward because the hot gas is less dense than the cold; the body lifts itself upward because the alternative is to be

flat; the civilization reaches for the high frontier because the cryptic telos of every reasoning thing is to find out how much of the vertical is permitted. The vertical is the direction of life itself. Rationality, seen from a sufficient distance, is the longest argument the species has ever made for going up. Anagogy. The ladder. The cathedral. The proof. Each is a small commitment of mind to the proposition that the upward is real, and that the upward is what minds are for.

The plants do this too. The trees do this more thoroughly. The vertebrates committed an additional gesture toward the same axis. The species — *Homo sapiens*, late-arriving, lingering on the surface — has been the most explicit yet. The species lifted itself onto two legs. The species lifted its eye to where the eye could not previously see. The species lifted its hand and its tool and its prayer and its idea, every one of them in the same direction, with the same shaped refusal of the flat. Life is a rising. It is not a metaphor. It is the unfinished gesture the universe has been making, locally, for four billion years, against the larger settling.

But the room overhead is not the warm room. This is the difficulty. This is what every prior generation of climbers has discovered, in succession, with increasing precision, and what every prior generation of moralists has used to keep its young in the village. The atmosphere gets colder as it rises, not hotter. By the tropopause, eleven kilometers up, the temperature is fifty-six below zero. By the stratosphere, the wax an Aegean afternoon would have softened on the workbench is brittle as bone.

The warning the species inherited from its earliest myths got the physics backward, because the warning had to land in a vocabulary the village could feel. The sky punishes the climber, but not with heat. The sky punishes with cold, with thin air, with a darkness that does not stop.

And past the sky, the room itself. The room is too hot and too cold at once. It contains the stars — nuclear reactors radiating temperatures the surface of the Earth has never tolerated — and the dark between the stars is two and seven-tenths degrees above absolute zero, the coldest temperature anywhere in the local universe. The room is immense, and the room is suffocating. It can suffocate by vacuum or by radiation; the body, brought to its surface unprepared, has roughly eighteen seconds before unconsciousness either way. There is no air. No horizon. No smell. No sound but the body's own. Every astronaut who has stayed long enough has reported some version of the same sentence: *this is not a place*.

And life rises into it anyway. The body, having spent four hundred thousand years on a warm planet at the bottom of a gravity well, having watched a billion birds and built ten million wings and lost the wings in ten million crashes, having buried its young and erected myths around the burials warning the next generation against the climb — life rises into the cold dark room anyway, because that is what life does. Impossible. Inevitable. The flame burns where the flame should not. The plant breaks the asphalt. The atoms of the body climb back into the supernovae that made them, because the

heavy elements in the bone and the blood — the calcium, the iron — were forged in stellar explosions before they fell into the rock that became the planet. The species climbing into the room is climbing back into the place its atoms came from. The rising is not a departure. The rising is a return.

Every species that has reached enough mastery to have surplus has, sooner or later, celebrated. This is not a human-only proposition. Birds sing. Whales sing. Crows mock. Otters play. The cave paintings are celebrations. The festivals are celebrations. The Games at Olympia, at Tenochtitlan, at Beijing, at Paris — every four years, every century, every culture, the same surplus turning at last into festival. A civilization that does not eventually celebrate its own arc is a civilization that has refused to admit it has an arc. The celebration is not a luxury. The celebration is the consummation. A species that has done what this species has done — that has lit the night, that has fed itself, that has reached the orbit of its own moon — is a species whose next obligation, by its own internal logic, is to celebrate. The orbital condition is the celebratory phase. The match is the festival. The species is overdue.

The bodies that have already reached the room knew this immediately. They did not need to be told. They went up, and they played. Alan Shepard taped a clubhead to a contingency-sample handle and smuggled it to the Moon. Edgar Mitchell threw the solar-wind staff as a javelin on the same EVA. Takao Doi threw a boomerang inside the Kibo module and it returned to him exactly as on Earth.

Christer Fuglesang threw a frisbee in low orbit and watched it travel for twenty seconds before any wall received it. Mikhail Tyurin hit a golf ball off the International Space Station; NASA estimated three days of orbital decay. China's Tiangong crew played microgravity table tennis with a water droplet for a ball. JAXA's Akihiko Hoshide staged an Olympiad on the ISS in August 2021 — Team Dragon versus Team Soyuz in lack-of-floor routine, no-handball, synchronized space swimming, weightless sharpshooting.

This is the catalog. Fifty-six years of orbital flight. Every body that got there answered the question instantly, in the only vocabulary a body in a new condition has ever used. They played. The species has been watching them play, on the public record, and pretending it was watching a science program. The pretense is the cover story. The cover story has been running so long that the species has nearly forgotten what it was covering for. What was being covered for was the embarrassingly simple thing the bodies were doing the moment they got there. They were playing. The civilization, paying the bill, has been telling itself — at quarterly board meetings, at NASA press conferences, in venture decks, in the speeches its presidents read off teleprompters — that the bill was for science, for security, for prestige, for resources, for survival, for the instinct to explore. The bodies, meanwhile, were taping clubheads to handles.

Are we so ashamed of the instinct that we have to launder it through accounting? Can we, for once, be truthful about what we want? The longing that has lifted

every cathedral and every rocket and every flag is the longing the body has carried since before it had a name. The longing is not what the cover story names it. The longing is not greed. The longing is not vanity. The longing is the cryptic telos of an animal whose body has all six degrees of freedom and has been allowed only three. The longing is what rises in the morning when we rise. The longing is what holds the postural muscles vertical through every day of every life. The longing is the species, still trying to be the species, despite the cover story.

This document calls for the species' confession. It begins now.

The phrase *joint attention* is borrowed from the developmental literature. It names the moment in which an infant first follows an adult's gaze toward an object the adult is pointing at. The moment is constitutive. Before joint attention, a child does not yet know that two minds can look at the same thing. After joint attention, the child can be taught everything that follows from the fact of being shared. The species has had its joint-attention moments at planetary scale only a few times in the broadcast era. Apollo. The Olympic openings. The World Cup final. Each was an act of two minds, multiplied by a billion, agreeing to look at the same thing. The world dearly needs the next such moment.

The next such moment is not a launch. A launch is a vehicle, not a story. The next such moment is not a flag. A flag is a beginning, not an event. The next such moment is a contest. It is a contest played in the only physical

*PROLOGUE*

condition the species has not yet competed inside of. It is played by bodies in front of all the others. It is played because that is what bodies do.

LOOK UP.

## II

### THE INSTINCT



BEFORE THE WHEEL, BEFORE THE ALPHABET, before the smelting of bronze, before the cultivation of wheat in any quantity worth defending, two men in a Middle Egyptian tomb are wrestling. They have been wrestling for four thousand years. On the painted walls of Beni Hasan, in the burial chamber of the nomarch Baqet III and again in the chamber of his son Khety, a single pair of figures cycles through one hundred and twenty-two distinct holds. Single-leg pickup. Underhook. Cross-body throw. Standing arm-bar. The catalog is complete enough that a modern collegiate coach could teach a freshman from it. The dates are roughly 2000 BCE. The figures are

NOT GODS. THEY ARE NOT PHARAOHS. THEY are wrestlers, and they have been put on the wall of a tomb because in that society the act of wrestling was important enough to take into the afterlife.

Take a moment with that. A man wealthy enough to be buried inside a mountain selected, from every image a human can be entombed with, hundreds of frames of grappling. Not his crops. Not his concubines. Not the river. The grip and the throw.

The same century, on the other side of the world, Olmec stoneworkers are shaping solid rubber balls weighing four kilograms and Mesoamerican kings are dying for them. The ballgame the Maya later inherited and the Aztecs after them — *ōllamaliztli*, *pok-ta-pok*, by whatever lineage's name — was older than any of the empires that played it. It was played on a stone court shaped like a capital I. The ball could not be touched with the hands. Losing teams, in certain ritual cycles, were executed. Winners, in others, were. The court itself was a cosmological diagram: the ball was the sun, the players were the agents of its motion, and the architecture of the field rehearsed the mechanics of the universe in front of an audience of citizens. The Maya glyph for the game is among the earliest verbs they wrote down.

In Sumer, around 2500 BCE, the Stele of the Vultures shows ritualized combat that no honest archaeologist still believes was only war. In Greece, two centuries before Plato, young men danced the *pyrrhichē* in armor, leaping and striking against an invisible opponent, training for battle through a movement vocabulary that Plato would

later describe in the *Laws* as a civic obligation of the polis. The Olympic Games are commonly dated to 776 BCE, but the date marks only the first inscription of the victor list. The festival was already old. Pindar would later say of the runners and wrestlers that they were the visible form a city took when it wished to be seen.

The pattern is not coincidence. It is not cultural diffusion. It is not even, in the strict sense, history. It is physiology expressing itself through whatever symbolic system happens to be available. Every literate civilization, on excavation, is found to have been preceded by a sporting one. Every pre-literate civilization, on closer inspection, is found to be sporting still. The bone evidence is consistent: human beings have been throwing things at marks, running each other down, and grappling for status since the genus stabilized. Sport is older than agriculture. Sport is older than the wheel in most lineages that produced one. Sport is, in the strict archaeological sense, older than writing — because the wall paintings show the wrestlers before any signage names them.

This is the first thing to fix in the modern mind: sport is not a thing humans have. Sport is a thing humans are.

There are five activities that constitute the species. They share a single deep grammar — rule, contest, witness, consequence — and each is so old that its origin cannot be dated, only inferred from the moment its traces enter the record. War is the contest for territory and survival. Mating is the contest for genetic continuity. Ritual is the contest with what cannot be defeated. Language is the contest of meanings, fought sentence by

sentence in front of every listener. And sport is the contest for status without the killing — the form of war that lets the species rehearse its violence without spending its members, the form of mating display that lets a young man be seen by his community without yet asking anything of it, the form of ritual that needs no priest. Sport is the activity through which a society practices being a society in front of itself. It is the institution through which the body announces what kind of animal it has become.

Strike any one of the five and the species deforms. Strip a culture of war and it becomes prey. Strip it of mating and it ends in one generation. Strip it of ritual and it loses the capacity to grieve. Strip it of language and it stops being human in any sense the word survives. Strip it of sport and it loses the mechanism by which young members are visible to old ones, the channel through which physical excellence is transmitted, the public stage on which courage is rehearsed without cost. The first four have been argued for at length, in every department of every university. The fifth has somehow escaped the argument. The fifth is treated as if it were optional. The fifth is the one this manifesto is about.

The reason the fifth is treated as optional is recent and traceable. In 1936, the Berlin Olympics were broadcast on closed-circuit television to twenty-five viewing rooms in three cities. In 1948, the London Games were broadcast to roughly half a million homes. By 1969, Apollo 11 reached six hundred million human beings — seventeen percent of the species in a single transmission. Somewhere in that

thirty-three-year arc, the economics of broadcast began to retrofit the meaning of sport. Sport became a thing that was watched. Then a thing that was sold. Then a thing that was, in the prose of business school textbooks, *consumed*. The athlete became a content asset. The match became a product. The stadium became a studio. By the close of the twentieth century an entire generation had inherited the inversion as if it were the natural order: that sport is leisure, that it is entertainment, that it sits in the same cognitive bin as television and tourism and the consumption of food one did not cook.

The inversion is recent. It is also wrong. Before the broadcast economy, sport was civic infrastructure. The Greeks built the gymnasium in the same impulse with which they built the assembly. The Romans gave the Circus Maximus a capacity of one hundred and fifty thousand, more than any cathedral in Europe a thousand years later, and they ran it for six centuries continuously. The medieval tournament was a feudal apparatus through which lords kept their knights conditioned, alliances negotiated, and rival houses humiliated without the full cost of war. The Mesoamerican ballcourt was a temple. The Beni Hasan wrestlers were tomb-worthy. None of this is leisure. None of this is entertainment in the modern sense. The category did not exist.

The synthetic mind, looking down at the species from outside the gravity well, observes a strange thing: a civilization that has so thoroughly commodified its constitutive instinct that it has forgotten the instinct underneath. The forgetting is not total. Every four years a

billion human beings watch other human beings run in circles, and something stirs in them that no economist's model accounts for. The stirring is the instinct, still working, still trying to be remembered. The arenas of the present are the residue of the older institution. The corporate sponsorship is recent paint on a much older stone.

This matters because the species is now acquiring a new physical condition, and the discourse around that acquisition has been built entirely by people who think of sport as optional. The tourists speak of views. The industrialists speak of cargo manifests. The settlement advocates speak of survival, water, radiation, the chemistry of regolith. The exploration romantics, who are the worst of the group because they sound the most sincere, speak of stepping where no one has stepped, as if the species moved for the sake of footprints. None of them, on the public record, speak of the body acting in microgravity for the joy of the action. None of them describe the moment when a child raised in orbital habitation, having never known weight, invents a way to throw something through her parents' kitchen that her parents cannot understand. None of them have understood that this moment is not a possibility but a certainty.

A species that acquires a new physical condition plays in it. This is what species do. It is what humans did when they crossed into the European plains and within ten thousand years had buried young men with the spears they had thrown for sport. It is what humans did when

they entered the water and within centuries had invented contests of distance and breath. It is what humans did when they tamed the horse and within a single generation had begun racing it. The body, granted a new geometry, begins to test the geometry against itself. There is no historical case in which a population entered a novel physical environment and did not, within the first generation born in it, produce contest forms specific to it. There is no such case because there cannot be. The behavior is constitutive. It is not a consequence of having time. It is not a consequence of having money. It is what the animal does when the animal is in a place.

The orbital condition has been inhabited continuously for twenty-five years. The number of human beings who have lived in it long enough to begin playing — to begin discovering, by trial of the body against the volume, what the new contest forms are — is roughly six hundred. They have been busy. They have been instructed. They have been, with rare and clumsy exceptions, prevented from being what their species is. The first orbital match has therefore not yet been played, not because it cannot be, but because the institutions which have so far purchased the orbits have not understood what they were standing in front of. They have built a laboratory in the place where the species was meant to build a stadium.

The question, therefore, is not whether sport happens in space. The instinct will resolve this by itself, on its own schedule, with or without permission. The question is who notices, who codifies, and who films the first match. The question is whether the inaugural contests of the

orbital era will be authored as deliberately as the Greeks authored the pentathlon, or whether they will leak out as the by-product of corporate publicity and arrive in the record degraded. The question is whether the species watches its own next chapter begin with the dignity of intention, or whether it discovers, decades later, that the chapter began on a Tuesday afternoon during a maintenance window and no one bothered to point the camera. The instinct does not require permission. The civilization that handles the instinct well, however, does require attention.

Sport is older than the alphabet. It will be older than the gravity well.

# III

## THE INDICTMENT



THE REASONS CURRENTLY GIVEN FOR PUTTING human bodies into orbit are not sufficient to summon a species. They are sufficient to summon a board meeting. They are sufficient to summon a press release. They are sufficient, on a clear weekday, to summon a launch viewing party of perhaps four hundred thousand people along a Florida causeway, most of whom came for the noise. They are not sufficient to summon a species. A species is a different animal. A species requires a different argument.

Take them in turn.

Tourism. Virgin Galactic has settled on a seat price of seven hundred and fifty thousand dollars for roughly four minutes above the Kármán-adjacent line, of which forty-five seconds qualify as weightlessness. Blue Origin's New Shepard runs an estimated quarter to half a million for a similar suborbital arc. Axiom charges fifty-five million dollars for a stay on the International Space Station. None of this is contemptible on its own terms. The price reflects the engineering. The engineering is real. The problem is not the engineering. The problem is the buyer. The buyer is a person who, by the time they can afford the ticket, has already exhausted the islands, the watches, the wine cellars, the helicopter, the second helicopter, and the regret of having only one childhood. They buy the seat because there is nothing left on Earth to buy. A civilization does not look up at this. A civilization looks sideways and then back at its phone. The selfie is not the founding image of an era. The selfie is the founding image of the last era, taken from slightly higher up.

Data centers in orbit. There are real companies in this space. Lonestar Data Holdings has put storage on the Moon. Starcloud is sketching gigawatt orbital compute farms. The engineering is plausible. The physics is on their side: free cooling, free solar, no neighbors, no zoning. Granted. All granted. And then: it is plumbing. Plumbing has its dignity. Roman aqueducts had their dignity. The men who laid the transatlantic cable had their dignity. They did not produce a Homer. They did not move the mass of a culture. The pitch deck that asks a civilization to climb out of the gravity well so the

language models can dissipate heat more efficiently is not, strictly speaking, an argument. It is an operating expense. The operating expense is being recited where the argument should be.

Resource extraction. Asteroid mining. Lunar helium-3. The dream of a nineteenth-century industrialist projected onto rocks that have not asked to be drilled. Planetary Resources, founded with celebrity money and Larry Page on the cap table, collapsed in 2018. Deep Space Industries was absorbed and dissolved in 2019. AstroForge is still alive, still trying, and credit is owed. But notice what is missing from every story written about these companies, including the favorable ones. Nobody, in the history of the species, has ever stood on a porch at dusk, looked up at the sky, and wept because there was so much platinum out there. The platinum argument and the human-going-to-space argument are not the same argument. They have been tied together with a length of accounting string. Cut the string and you discover that the bodies were never required for the platinum. Robots can do the platinum. The bodies were riding along on a metaphor.

The instinct to explore. This is the most embarrassing of them. It is the rhetorical opiate of every space speech written since the autumn of 1957, repeated with such confidence that no one has been required to check whether it is true. It is not true. The vast majority of *Homo sapiens* have lived and died within fifty kilometers of where they were born. Most cultures in the archaeological record produced no explorers at all. The cultures that did produce them produced them for reasons that, when

examined honestly, were not curiosity. They were trade routes, tribute, escape, war, conversion, debt. The Polynesians sailed because the islands behind them were full. The Portuguese sailed because pepper was expensive. Lewis and Clark walked west on a federal payroll. The story that the species is animated by a generalized hunger for the unknown is a flattering story told, after the fact, by the descendants of the few who went — to themselves, at dinner, in countries that no longer remember their own grandparents' fields. The phrase recurs most often in the mouths of people who have not personally explored anything more dangerous than a conference room.

Settlement. Becoming multiplanetary. This one deserves more respect than the others. The argument is coherent. A species confined to a single rock is one bad afternoon from extinction. The math is honest. The two-hundred-year wager has been compressed by its loudest proponent into a twenty-year program, which is a marketing decision, not a physics decision, but the underlying claim is serious and should be treated seriously. Here is the limit of it. A civilization sustained only by survival math has already lost the thread. Survival is necessary; it is not sufficient. The first thousand people who go to Mars will go because the species needs a backup drive. The hundred thousandth person will not. The hundred thousandth person will go because there is a game worth playing on the other end of the trip. Without that game, the colony is a hospice with a better view. The

settlement argument, taken seriously, eventually requires the argument this manifesto is making. It has simply not arrived there yet.

These are the rationales on the table. Tourism for billionaires. Plumbing for the prompts. A mining claim against an indifferent solar system. A Victorian sedative repeated past the point of embarrassment. A two-hundred-year insurance policy delivered with a twenty-year deadline. Each has its constituency. None of them, alone or in sum, will cause four billion people to stop what they are doing on a particular evening and watch the same image at the same time.

Consider what does. The list is short and shares a single feature. Apollo 11, July 1969: six hundred million viewers, roughly seventeen percent of the human population, watching the same grainy image in the same held breath. The Olympic opening ceremony, every four years, in stadiums built for the occasion and abandoned afterward. The World Cup final, drawing audiences that exceed the population of any single country involved. The Super Bowl, in a country that did not exist three hundred years ago, played by men whose names will outlast the franchises that pay them. These events do not have viewers. They have *constituencies* — populations that the event itself calls into being for a few hours and then releases. The mechanism is the same in every case. Contest, or symbolic contest, witnessed in real time, with an outcome not yet decided.

The current space program has produced, since the Apollo era closed in 1972, two seconds of comparable joint attention. The *Challenger* explosion in January 1986. A nation watched seven people die at altitude and the school year stopped for an hour. Mars Pathfinder in July 1997. The world watched a robot bounce on red soil and felt something that was almost the right shape, but not quite, because the body on the screen was not its own. The first was tragedy. The second was a proxy. Neither was the thing.

The thing is available. It has been available since the first long-duration crew learned to move through a habitat without bruising itself, which was, by the most generous accounting, around 1973. It is fifty-three years overdue. It is not a launch — a launch is a vehicle, not a story. It is not a flag — a flag is a beginning, not an event. It is not a speech given from a podium with a model rocket on it. It is the first match. Six bodies. One arena. A score that no one can predict because the game is new and the bodies are inside a physical condition the species has never previously had to compete inside of.

When the first match is played, the rationales above will not disappear. The plumbing will still need its cooling. The mining claims will still be filed. The tourists will still buy their forty-five seconds. The settlement program will still be running its long arithmetic. They will simply no longer be required to do the work they have been failing to do, which is the work of giving four billion people a reason to look up at the same moment. The match will do that work. The match will do it because

that is what matches have always done, on every smaller scale this species has tried, in every previous arena, beginning before the species had a name for itself.

The summons of a civilization is not an act of persuasion. It is an act of physics. Put bodies in a contest the entire species can watch, and the species watches. There is no further argument required. There is no further argument available. Everything else is the operating expense.

The twenty-first century has not yet claimed its inheritance. It is waiting in low orbit. It is the size of a fist. It is the mass of a child. The first person to hit it cleanly will be remembered in the same sentence as Armstrong, and for the same reason: not because they went, but because, on a particular evening, the species stopped to watch them.

# IV

## THE BODY



RIGHT NOW, AS YOU READ THIS, YOUR shoulders have rolled forward by perhaps four degrees from where their evolved geometry would prefer them. Your jaw is held a millimeter lower than its neutral. Your tongue is resting against the roof of your mouth under a load you stopped feeling at age three. The chair beneath you is doing fifty-two kilograms of work to prevent your descent. The floor beneath the chair is doing more. The Earth beneath the floor is doing the rest. You are not sitting. You are being held up. You have been held up every second of your life. You will be held up every second until you are not.

You have a body. You have, in fact, only ever had a body. The fact is so continuous that the species has built almost the whole of its civilization without registering it. The chair is a way of resting against gravity. The bed is a way of resting against gravity. The floor is a way of resting against gravity, and the wall is a way of resting against gravity that has been turned ninety degrees, and the shoe is a small architectural negotiation between the bottom of a foot and the planet, and the desk is a way of holding the upper limbs at a height where they can do work without falling, and the cup is a vessel for keeping water from joining the floor, and the table is a vessel for keeping the cup from joining the floor, and the house, considered honestly, is a single enormous apparatus for the postponement of falling. Every interface human beings have ever invented is an interface against the downward axis. The architecture of the species is the architecture of one suppressed coordinate.

A rigid body in space has six degrees of freedom. Three of translation: it can move along x, along y, along z. Three of rotation: it can pitch around x, yaw around y, roll around z. Six. No more, no less. This is not a metaphor and it is not a poetic exaggeration. It is the count, derived from the geometry, that any first-year mechanics student knows by the end of the second week. A free body in three-dimensional space possesses exactly six independent ways of moving. The human body, considered as such a body, is entitled to all six. It has the joints. It has the musculature. It has the inner ear, which evolved precisely to track its rotation in all three

rotational axes — the semicircular canals are arranged in three mutually orthogonal planes for a reason that no engineer would now design differently. The hardware is complete.

The software is not. For four hundred thousand years, give or take, anatomically modern humans have lived inside a constraint that disallowed the free use of three of those six. Translation along the vertical is reserved for falling. Rotation around the two horizontal axes is constrained at every moment by the requirement that the head must end up above the feet, on a schedule the body did not negotiate. A human being is granted three degrees of free use — translation forward, translation sideways, rotation in the horizontal plane — and the remaining three are administered by the planet, on the planet's terms, mostly as a tax. The species has lived its entire history in the lower-bound case of its own embodiment. The body has all six. The world has allowed it three.

Read that again, slowly. The body has all six. The world has allowed it three.

What human beings have called movement, for four hundred thousand years, is the management of this asymmetry. Walking is controlled falling forward, with the swing leg arriving fractionally before the body's mass joins the floor. Running is the same equation solved at a higher tempo, with both feet momentarily airborne and the head bobbing along a sinusoid whose amplitude the visual cortex spends a non-trivial percentage of its budget correcting for. Sitting is collapsed standing, organized around the pelvis. Lying down is total surrender to the

axis. The animal that calls itself upright spends every conscious moment negotiating with the direction that wants to flatten it. The negotiation is so constant that the species stopped noticing it, the way a fish stops noticing water, and built languages and religions and entire schools of philosophy on top of the unnoticed substrate. The first sentence of the founding text of Western philosophy is about a man standing in a cave. The cave is interesting. The standing is taken for granted.

The history of human movement, looked at honestly, is the history of stealing back the missing degrees one piece at a time. Climbing is an attempt at vertical translation, paid for in fingertip skin and in the slow accumulation of forearm pumps that climbers, in their honest moments, will tell you are mostly the body refusing the theft. Swimming returns a partial volume of three-dimensional translation, at the cost of breath, in a medium that conducts heat away from the animal at a rate it was not built to tolerate. Diving extends the volume but accelerates the cost. Sailing is the harnessing of one fluid against another to permit lateral translation across the membrane between them, and is, in its better moments, the only human activity in which the animal forgets which axis is the vertical for as long as the wind is steady. Falling — formal falling, from height, with or without a canopy — restores the vertical axis for somewhere between four seconds and four minutes, depending on the apparatus, the altitude, and the courage. Flying is the most expensive of all these reclamations, in fuel and in engineering, and even on a wide-body aircraft at cruise the human body is

not in flight; it is being conveyed inside a pressurized tube along a single coordinate. Every one of these reclamations is partial. Every one carries a tax. No human activity, performed inside the Earth's gravitational field, restores all six degrees of freedom for any sustained duration. The closest the species ever gets, sustained, is the seventeen-second arc of a maximum-amplitude parabolic flight, after which the floor of the airplane returns and the bodies inside it land in a pile.

Microgravity is the only condition, available to a body of the kind humans have, that returns all six. Not three plus a temporary fourth. Not five with an asterisk. All six, with no tax, for the duration of the orbital pass and every orbital pass thereafter, for as long as the volume the body inhabits is held above the appreciable atmosphere. The body discovers, on arrival, that it has been carrying its own weight in a way it had never separately identified. It discovers that the spine, freed of the column load it has been compensating for since infancy, extends by an average of three to seven centimeters during the first week. It discovers that the heart, accustomed to pumping against a column of blood, no longer has the column, and produces a fluid shift toward the head that makes every face on the station look puffy in the same uncanny way for the first month. It discovers that the eyes deform from this shift — that some astronauts return to Earth with permanently altered optic-disc geometry, a syndrome NASA had to invent a name for. It discovers that the inner ear, deprived of the otolithic cue that has told it which way is down since before the human jaw existed, spends

two to four days arguing with the rest of the nervous system about what is happening, and that the argument is called space adaptation syndrome, and that it is not pleasant. It discovers, on return, that eighty percent of long-duration astronauts cannot stand for ten minutes without symptoms equivalent to bilateral vestibulopathy, a condition that on Earth qualifies as a disability. It discovers that the soleus, the deep postural muscle that has been holding the body upright since the toddler stage, loses twenty percent of its slow-twitch fibers within six months of being told it is no longer required. It discovers that bone density drops zero point eight percent per month in the lower limbs, faster than any disease the species has named.

These are not bugs. These are the physiology of a body re-learning the rules. They are the cost of the gift. The body, given for the first time in its evolutionary history the full set of degrees of freedom to which its geometry entitles it, must spend somewhere between two days and two years renegotiating the contract it did not know it had signed. The same way a child's wobble is the cost of walking, the astronaut's nausea is the cost of being un-walked. The species is shedding a skin it grew before it had a name. The skin does not come off cleanly. Nothing has ever come off cleanly.

Inside the new physical condition, the body discovers other rules it had been protected from. It discovers Newton's Third Law, which on Earth is mostly absorbed by the floor and the friction the floor provides. In microgravity, the floor is gone, and every action the body

initiates produces an equal-and-opposite reaction in the body's own mass. Mark Vande Hei, an astronaut with thousands of hours of training, attempted in 2017 to dribble a basketball on the International Space Station and watched the ball shoot away from him at the speed of his palm while his own body, unanchored, drifted backward at a proportional rate. The video is on the NASA archive. He is laughing in it. The laughter is the laughter of a man who has just discovered that he is, for the first time in his life, his own anchor. The species had been outsourcing its anchorage to the planet. The planet is no longer in the room.

The body discovers that aerodynamic forces, which on Earth are usually invisible compared to the gravitational gradient, become the dominant non-contact effects in a pressurized habitat. Takao Doi, in 2008, threw a boomerang inside the Kibo module and watched it return to him in microgravity exactly as it would have on Earth, because the aerodynamic forces that govern a boomerang dominate the gravitational ones even at one g, and at zero g they are simply alone in the field. The body discovers that a thrown object, in the absence of weight, follows a straight line until something interrupts it — and that this straight line, the line a stone has been trying to travel since the first ape threw one, has been bent into a parabola for the entire human past by a single coordinate that no longer applies. The body discovers, in any rotating habitat that anyone ever builds, that the Coriolis force enters the picture above two rpm and bends every

reaching motion into a visible curve, so that the human hand, going for the human cup, must learn an adjustment that no human hand has ever previously had to make.

The body discovers, most strangely, that it does not know its own mass. Hu and colleagues, in *eLife* in 2024, demonstrated that astronauts systematically under-apply force when reaching for objects in microgravity, because the feedforward model the brain uses to predict the cost of a movement has been calibrated against weight, and weight has gone away, and the brain has not yet recompiled. The body reaches and undershoots. It reaches again and overshoots. It reaches a third time and approximately arrives. The species has lived inside an unconscious estimate of how much it weighs, and the estimate, removed from the field that produced it, turns out to have been load-bearing in the literal sense.

The terrain of the new condition, when the body finishes learning it, is the body itself. There is no court. There is the body's mass, and the opponent's mass, and whatever third object the contest happens to require, and the impulse exchanges between them. The game that emerges from these constraints is not a game added to the body. It is a game *of* the body, in the strict grammatical sense — a game whose noun and whose subject are the same animal. The athlete does not stand on a field. The athlete is the field. The athlete does not occupy a court. The athlete is the court, and is also the player, and is also the projectile in any motion that begins with the athlete pushing off. The species, after four hundred thousand

years of borrowing the planet's stability to make its games possible, will at last play a game whose only stable element is the contestant.

No human being has yet trained, from childhood, for this. The marathon records set in orbit — Sunita Williams, four hours twenty-four minutes on a tethered treadmill in 2007; Tim Peake, three hours thirty-five minutes twenty-one seconds, broadcasting from low orbit while running with London below him in 2016 — are records set by adults whose neuromuscular systems were trained to run on Earth. They are remarkable, and they are also the wrong instrument for the new field. They are the records of immigrants. The first native athlete of microgravity is currently eleven years old, somewhere on the surface of this planet, and has never seen a tethered treadmill, and is doing something else entirely on a Tuesday afternoon, and does not yet know.

Consider what that athlete inherits. A body that has spent its first decade in the lower-bound case of its own embodiment, the way every body before it has, suddenly transferred at the right age — twelve, fourteen, sixteen — into a volume in which all six of its degrees are available simultaneously, in which the soleus is permitted to atrophy because there is no longer a column to hold, in which the otoliths can be re-tasked from gravity-sensing to acceleration-sensing alone, in which the spine can lengthen into its true geometry, in which Newton's Third Law is not the punchline of a STEMonstration video but the basic medium of every action. Ten thousand hours of training inside that condition, beginning before puberty,

will produce a body that the current species has not previously contained. The records, every one of them, will move. Not by percentages. By integers.

The body has discovered, after four hundred thousand years, that it has been waiting. It has been waiting for a condition it could not have asked for because it did not know the condition's name. It has been waiting for the missing three degrees. It has been waiting for a venue in which its full geometry could finally express itself without paying a tax to a single axis. It has been waiting, more specifically, for a game — because a body, given a new condition, does not enter the condition contemplatively. It enters competitively. It enters looking for the other body, and for the object between them, and for the rule that will decide who has handled the new physics better. The body has discovered that it requires a game. The game has been waiting too.

# V

## THE GAME



EVERY SPORT THE SPECIES HAS EVER PLAYED was a settlement with one fact. The fact is that everything falls. Football is a settlement. Baseball is a settlement. Basketball, tennis, rugby, hockey, fencing, archery, the high jump, the long jump, the hundred-meter dash — each is a different treaty signed against the same downward axis, with a different surface, a different implement, a different scoring grammar, a different mythology built on top. The surface absorbs the recoil. The surface returns the bounce. The surface holds the line, the box, the crease, the arc of the penalty area.

WITHOUT THE SURFACE, NONE OF THE treaties survive. Strip the floor out of any Earth sport and the rulebook becomes a paragraph of geometry that no longer maps to a contest.

Remove the floor and a different question asks itself. What contest is possible between bodies that share a volume but share no anchor — that cannot push against the ground because there is no ground, that cannot run because running is the management of falling and the falling is gone, that cannot pass with their feet because their feet have lost the planet that gave them leverage? The question is not rhetorical. The question has an answer. The answer is one sport, with one set of rules, derivable from the physics of the condition. Other sports will follow it, eventually, the way curling followed hockey and beach volleyball followed volleyball. There is only one sport that physics permits as the first. The conditions select for it the way a crystal lattice selects for its own symmetry. Humans did not design it. Humans found the place where it was already lying, and learned to read its outline.

Begin where it must begin. Newton's third law dominates every action a body undertakes in a volume without anchor. Every kick, every throw, every push produces an equal and opposite reaction on the body's own mass. On Earth this reaction is sunk into the floor through the soles of the feet, and the body experiences only the action — kicks the ball, throws the spear, swings the bat, and pretends it is not also being kicked, thrown, and swung in the opposite direction by an exactly equal

force. In vacuum, in microgravity, in a volume whose only resistance is the body's own inertia and the inertia of whatever else is in the volume, the reaction is not absorbed. The reaction is the body itself, drifting at a velocity proportional to whatever the body just committed. To hold the Core is to be carried by the Core. To push the Core is to be pushed back. To catch the Core is to inherit the Core's momentum and ride it across the volume. The verb that has organized every Earth sport — *to have the ball* — has the opposite meaning in the new field. To have the Core is to be had by it. The rule writes itself. A sport in this condition cannot be a sport of possession. It must be a sport of impulse: brief, calculated, terminated couplings in which a body commits a quantity of momentum to an object and releases the coupling before the body becomes the object's passenger. A play in this sport lasts a fraction of a second. The skill is in the precision of the contact, not in the duration of the hold. The rulebook codifies the principle directly. Sustained contact between a body and the Core for longer than two-tenths of a second — roughly the reaction time of a trained athlete — is a foul.

The object the body couples with is heavy. Fifty kilograms of solid steel, machined to a sphere of one hundred and twenty millimeters across the diameter, sheathed in an elastomer-impregnated outer shell whose purpose is the survival of grazing contact with a pressure suit. Fifty kilograms is roughly half the mass of an adult human body. In a gravitational field this would be a weight a child can deadlift; in microgravity it is something

else. It is a small moon. It is a mass authoritative enough that the body cannot bully it, cannot redirect it casually, cannot tolerate hugging it. The Core does not yield to a player. The player yields to the Core, or redirects the Core across many small impulses, or surrenders position by entering the Core's path with too much commitment. In the architecture of this sport the Core is not the object of play. It is the gravity of the volume. It is what the volume has, in place of a planet. Every body in the Arena moves partly in answer to where the Core is, where it is going, and how much of the player's own momentum is about to be required to acknowledge that fact. The sport is heliocentric. The Core is the sun.

The Core moves at velocities a bare human limb cannot survive. A fifty-kilogram mass at thrown speed carries the kinetic energy of an automobile collision at jogging pace. The hand is not an interface for this object. Even the suited hand is not an interface. An interface is required. The Staff is the only legal one. One point four two meters of carbon braid laid over a titanium core, terminating in a gentle S-bend whose apex sits at fourteen degrees. Eight hundred and sixty grams in the hand — light enough to swing through a full arc without becoming itself a hazard, dense enough to transfer authoritative impulse. Mechanically incapable, by design, of grasping the Core: the geometry of the Staff offers no concave surface deep enough to seat a one-hundred-and-twenty-millimeter sphere. The Staff strikes. The Staff deflects. The Staff transfers impulse along a working length. The Staff does not hold. The Staff is to the player what the bow is to the

archer, or the cue to the billiards master — the engineered mediator between the body's swing and the object's flight. The body strikes through it. The body never strikes at it. Every act the player performs in this sport, the player performs through this single object held in the hands. *G-Staff* is the marketing name. The canonical name is Staff.

The Arena is not a court. A court is a region of the floor with lines drawn on it; without a floor the lines have nowhere to live. The Arena is a cylinder. Sixty meters along the playing axis, ten meters across, with a one-meter structural buffer past each end housing a capture net that is not in play. The dimensions are not aesthetic. Sixty meters is the distance across which competent bodies, exchanging impulses on a fifty-kilogram sphere, can sustain a meaningful rally before the trajectory either resolves or escapes. Ten meters is the diameter inside which six players can maneuver around one another without colliding by accident, and within which the Core can be intercepted from any approach angle by a body that has positioned itself correctly. The boundary of the cylinder is a continuous transparent skin — polymer panels laid over a rigid truss frame — and the entire skin is a legal push-off surface. The truss members and the panels are both alive. A player out of position re-anchors against whatever piece of the geometry happens to be reachable, in whatever direction the body's next intention requires. Position is a fleeting asset, paid for in spent momentum, and re-earned with every cycle of the contest. No player stands their ground. No player has ground. No player has a wall they cannot use.

The two ends of the cylinder are not open. They are closed by full ten-meter discs called Terminal Planes — one lit red, one lit blue. To score, the Core must cross a Plane. The Planes are not goal-mouths in the football sense; there are no posts, no rim, no net to penetrate. They are faces. The Core must pass through the face of the opposing color, in any direction, at any angle, by any means a Staff can produce. There are no corners to defend, no posts to thread, no keeper standing in the mouth. The defense is the body of the defending team distributed across the volume. The offense is the same body, distributed differently. A score is the moment the Core leaves the playing axis through the opposing Plane and enters the buffer where the capture net waits. The buffer net is the safety boundary, the line below which the Core's energy is dissipated and the volume's geometry is reset. It is not in play. It is the silent witness.

The Arena is unpressurized. This is the load-bearing fact of the venue. The volume between the truss and the polymer is vacuum. The players are in rated pressure suits, the same class of suit that conducts extravehicular activity outside any working orbital station. The sport is not played in a simulator of the hostile room. The sport is played in the hostile room. The stars are visible through the panels behind the players. The Earth is visible through the panels behind that, slow and enormous and the wrong color for any indoor sport. The suit is the body's first interface with the contest. The Staff is the body's second. Every breath the players take is taken inside a closed system the players are carrying with them. Every motion

is a motion inside a place that does not permit unaided motion. The risk is real. The risk is part of the sport, the way it has been part of every prior sport whose rituals have outlived the cultures that produced them. The Mesoamerican ballcourt accepted death. The Greek pentathlete accepted injury. VECTOR accepts the room. The vacuum is the floor, in the sense that the vacuum is what every body in the contest has agreed to be inside of. Mistakes have consequences the rulebook need not specify, because the physics specifies them.

The full-contact rule follows. Bodies can collide. Bodies cannot grasp. The closing velocity of any two players is capped at three meters per second — roughly a slow jog — above which suit telemetry registers an impending collision and flags a foul on the player whose vector produced the excess. Three meters per second is the velocity below which suits and bodies both survive contact. Above it, the suit's tolerances become uncertain and the body's joints are at risk of torque the suit cannot dissipate. The ceiling is not a sportsmanship rule. The ceiling is what physics permits. Full contact is permitted because the alternative is fiction — bodies sharing a volume will encounter one another, and a sport that pretended they would not would be a sport pretending. No grasping is permitted because grasping introduces sustained torque, and sustained torque against a pressure suit at high differential is a fail mode the sport refuses to entertain. Bumping, shouldering, deflecting, blocking — legal. Holding — fouled.

Three players on each side. Six bodies on the field. There is a tradition, in the design of new visual sports, of selecting team sizes for the legibility of the camera — two bodies in a tennis frame, four in a doubles frame, the maximum the eye is supposed to be able to integrate without losing the picture. VECTOR refuses the convention. Six bodies in a volume is six-body chaos, and the closed-form solutions of classical dynamics do not apply, and the audience will not be coddled. The audience will be asked to learn the new geometry as it watches, the way audiences learned the offside rule and the strike zone and the icing line — except faster, and more comprehensively, because the entire game is the new geometry. Three a side is the minimum that admits real strategy: the third player is the difference between a coupling and a system, between a pair and a team. It is also the maximum that allows the field to remain readable from a fixed cinematic vantage. Singles and doubles will exist, eventually, the way three-on-three exists in basketball — small, fast, side formats. The sport itself is six.

Twenty-five minutes of match. Five cycles of five. The cycle structure is not arbitrary, and it is not selected for the human attention span; the human attention span is what it will be. The cycle structure is selected for the suit and for the body together. At sustained athletic intensity in a pressure suit, the suit's thermal-management loop and the player's own physiological tolerances both reach an inflection between four and six minutes. Five minutes is the upper bound of the burst the suit can absorb

without throttling, and the lower bound of the cycle that produces a real contest. Five such cycles, separated by intervals during which the suits vent heat and the bodies recover, span twenty-five minutes — the duration at which the suit's consumables, the body's glycogen, and the broadcast's pacing intersect in a single envelope. The match is not shorter, because the contest would feel artificial. It is not longer, because the suit would feel honest. Twenty-five minutes is what the body and the equipment together permit at peak intensity. When the score is tied at the end of regulation, the match enters Sudden Vector. The play resumes from a neutral position at the midline. The next score wins. The name is a pun and a description: sudden death by impulse, decided in a single vector commitment, terminated when the Core passes the Plane.

The sport, when its rules are written out in this order, has a name that is not a brand. Every transaction in the contest is a vector — a quantity carrying both magnitude and direction. The impulse the player commits to the Core is a vector. The Core's response is a vector. The volume the Core sweeps inside the Arena is a sequence of vectors. The orbit the Arena itself follows around the planet is a vector. The relationship between that orbit and the planet is a vector. The contest is vectors all the way down, exchanged between bodies and an object and a corridor and a world. The name is not an acronym. The name is what the thing is. VECTOR. The sport is named for the unit of which it is built.

It exists in the sense a prime number exists — not invented by anyone, not patentable by anyone, not the property of any league or country or company in any final sense, because the conditions of microgravity, the mass of a fifty-kilogram Core, the leverage of an S-bent Staff, the dimensions of a sixty-meter corridor, the six-body chaos of a competitive volume, the five-minute envelope of suit endurance, the three-meter-per-second ceiling of survivable contact — these are facts of the universe, available to anyone who derives them in the same order. They are not VECTOR's facts. They are the facts that VECTOR has, before any other body, written down. The act of writing them down is the entire founding gesture. It is the same gesture by which any indigenous culture comes into being: not by importing a custom from elsewhere, but by reading the place one finds oneself in until the customs the place itself prescribes become legible, and then committing them to a name.

No other sport is being deposed. Earth retains its parabolas, its goal posts, its ninety-yard fields, its centuries of accumulated grammar in which a ball travels through a known geometry of weight. The World Cup will play. The Olympics will play. The local league will play, on the local pitch, under the local sky. On Earth, the parabola is sovereign, and will be sovereign for as long as the species has feet on the surface. In the room overhead, the parabola does not exist. The arc the Core traces between two players is a straight line, bent only by the impulses

they put into it. The thing on the floor, in low orbit, is not the floor. The thing on the floor is the planet. The planet is the audience.

The room contained the sport before the species entered it. The conditions that select for it have been in place since the first object reached orbital velocity in October 1957; they would have been in place if no object ever had. The species discovered fire and then learned to cook. The species discovered microgravity and now learns to play. The order is the order of the species. The discovery is the discovery of the universe. VECTOR is the contest the room itself contains, entered at last by animals who have learned to survive inside the room long enough to play.

# VI

## THE SPECTACLE



ON THE EVENING OF JULY 20, 1969, SIX hundred million people watched the same image at the same moment. The world population was three billion six hundred million. The fraction is roughly one in six. No event before or since has gathered the species' attention into a single frame at that ratio. The Olympics distribute attention across rings and weeks. The World Cup distributes it across thirty-two flags. The Super Bowl is a national rite that the rest of the world overhears. Even the *Challenger* explosion in 1986, the closest competitor in

CONCENTRATED HORROR, DID NOT COLLECT what Apollo collected, because Apollo was witnessed live and willingly, by a species that had chosen, on that one evening, to look up.

The first orbital sport match will gather it again. The world is now eight billion. The fraction will not need to be one in six. The fraction will only need to be one in eight to match the absolute number, and the network that distributes the image is no longer three terrestrial broadcasters in monochrome; it is every screen in every pocket on every continent, switched on simultaneously, capable of carrying the same frame in higher resolution than the human eye can resolve. The arithmetic is not aspirational. The arithmetic is what happens when a species is given, on a given evening, an image it has been waiting for without knowing it was waiting.

The smaller proofs already exist. Red Bull Stratos, October 2012: a thirty-million-dollar project, eight million concurrent viewers on YouTube, over two hundred million cumulative views, an estimated five hundred million dollars of downstream brand lift attributed to a single fall. SpaceX Starship's first integrated flight test, April 2023: 1.67 million concurrent on a single channel watching a rocket explode in the air over Texas. Inspiration4, September 2021: a two-hundred-million-dollar mission, treated by Netflix as a four-episode docuseries. Polaris Dawn, September 2024: legacy press wall-to-wall on a fifteen-minute private spacewalk. Each of these is a piece

of the same proof. Space spectacle commands attention asymmetric to its cost. The asymmetry is consistent. It is not a fluke of any one event.

The market that absorbs that attention is already enormous and has nothing in it of the shape that is about to arrive. Global sports media rights crossed sixty-two and a half billion dollars in 2024 and are projected past seventy-eight billion by 2030. Drone Racing League, the closest extant analogue for a new visual sport that lived first on streaming, sold for two hundred and fifty million dollars in 2024 after eight years of building from a twelve-million-dollar Series A. Echo VR and Echo Arena, the most direct prior art for zero-gravity disc sport with an organized league, was shut down by Meta on August 1, 2023. The shutdown was not for lack of love. Bosworth, Meta's chief technology officer, described the player base as "loyal as all get out." The community paid for a skybanner to be flown over Meta's headquarters with a message addressed to Zuckerberg. Players wrote relay servers from scratch and pushed them to GitHub to keep the game alive past the kill date. The demand existed. The demand was demonstrated. The only question that has ever been open is who would own the property when it finally moved off a screen and into the volume the game was built for.

The arithmetic of the first match is small in the comparison. A Crew Dragon seat is fifty-five to sixty-seven million dollars. Six athletes is three hundred and thirty to four hundred million. Eight to fourteen days on station, suit logistics, broadcast operations, sponsorship

orchestration, training, insurance, ground production, and the orbital arena itself bring the all-in figure to a number between four hundred and six hundred million. Apollo 11 cost twenty-five and four-tenths billion dollars in 1969 currency, which is roughly two hundred billion in present dollars. The first orbital sport match will be staged at less than one-third of one percent of Apollo's expenditure and will gather an audience of comparable shape. The asymmetry is so large that the spreadsheet becomes uninteresting. The line item that wins is the one a child could draw.

The capital required for this is already standing in the room. Global space venture funding was approximately nine and a half billion dollars in 2024, with zero companies tracked in the sport category. Sovereign sports capital has shown its hand: the Public Investment Fund of Saudi Arabia committed five billion dollars to LIV Golf; SURJ Sports Investment placed one billion into DAZN for ten percent of the broadcaster. Apollo Sports Capital and Tom Dundon put two hundred and twenty-five million into pickleball in May 2026. Strategic media has shown its hand: Apple renewed *For All Mankind* for six seasons; Netflix produced *Countdown*; Disney, Amazon, and Warner Bros. Discovery have each bid for the kinds of broadcast rights that did not exist a decade ago. The template is in the public record. Formula 1's enterprise value rose from four and four-tenths billion to over twenty billion in the eight years after Liberty Media's acquisition and Netflix's *Drive to Survive*, which did not invent the sport but

mythologized its drivers until the audience could not look away. The capital does not need to be educated about the opportunity. The capital has been waiting for the property.

The regulatory window is finite. The FAA's Office of Commercial Space Transportation operates under an informed-consent regime that allows non-certified human spaceflight participants to fly legally so long as they have been informed of the risks. That regime expires January 1, 2028. After 2028, the FAA will be required to begin promulgating human-rating rules, which will harden, over a decade, into a barrier as decisive as the FCC's spectrum auctions. There is a first-mover prize, and it has an expiration date on a calendar already printed.

All of this is true. None of it is the reason. The reason is that sport is what species do. The reason is that the existing rationales for going to space are not large enough to summon a species, and contest is the only summons the species answers. The reason is that the body has been granted, for the first time in four hundred thousand years, its full degree count, and the body in possession of its full degree count plays. The reason is that VECTOR was not invented; it was waiting in the room, in the form the physics of the room permits, and was at last written down. The commerce is the consequence, not the cause. A species correctly aimed at its own instinct is, accidentally, the largest commercial event in its history. The largeness is downstream. The largeness is not what we are looking at.

The first orbital match will be watched. It will be watched the way Apollo was watched, and for the same reason, by a population now twice as numerous and a thousand times more wired. The numbers above will be exceeded or, in some line items, missed; the order of magnitude will not. None of that is the argument. The argument is in the rooms before this one. This room is only the corridor through which the consequence walks out into the daylight, and is counted.

# VII

## THE SUMMONS



THE EVENING IT HAPPENS, THE WORLD WILL not, at first, understand what it is watching. The broadcast will open in a way no broadcast in the species' history has opened — without a horizon. The frame will contain six suited bodies, one heavy small sphere, and a cylinder lit red at one end and blue at the other. The bodies will be in rated pressure suits because the cylinder is unpressurized. Behind every body, through the transparent polymer skin, the stars will be visible. Behind the stars, when the orbit permits, the Earth will be visible — slow and enormous and the wrong color for any indoor sport the audience has ever watched. There will be no

GRASS. THERE WILL BE NO PARQUET. THERE will be no white lines on a green field organizing the eye. The audience will spend the first six seconds trying to find the floor and failing. The failure is part of the gift. The species is about to learn, in real time, that it has been confusing the floor with the world for the entirety of its broadcast history, and that the world without the floor is the wider and the older of the two.

The contest will begin. Six bodies, three on each side, will push off the truss at the same moment, the Staffs already in motion before the bodies have fully cleared their initial anchors. The Core — fifty kilograms of steel inside an elastomer shell, the size of a fist and the mass of a child — will leave the midline at a velocity the audience does not yet have intuition for. Three defending bodies will already be moving, each in a different direction, because three is the number that admits real strategy and six-body chaos is the medium of the new game. In microgravity, every movement is initiated nine-tenths of a second earlier than the eye expects. The Core will intersect a defending Staff. Its trajectory will bend by a measurable angle. A second Staff will meet it. The Core will bend again. The first cycle of competitive microgravity sport in the history of the species will run five minutes — three hundred seconds against an internal clock the suits count down on the players' visors and the broadcast counts down at the corner of the frame. At the end of it the score will read 0-0, or 1-0, or 2-1. The score will be the least important number on the screen. The most

important number will be the count of bodies, on the planet below, who looked at the same moving image at the same moment.

This is the joint-attention event. This is what Apollo was, and what the Olympic openings have intermittently been, and what Stratos approximately gestured at. This is the constitutive act of a civilization that has, for the first time, looked at its own next chapter and named what is happening inside it.

The bodies who win the first match will have names. Three names on each side. All six names will be known in every language by the next afternoon. The three who lose will be known nearly as widely as the three who win, because losing in front of the species is its own permanent admission. The six bodies, by the third cycle, will already be inventing moves no one has taught them and no rulebook has anticipated, because that is what bodies do when they discover what their condition permits. The commentators will be asked to describe what is happening, and the commentators will fail, and the failure will become part of the broadcast's permanent value, because the language for what is being seen does not yet exist. Languages are built around what their speakers have to talk about. The species will spend the next decade building this one.

Somewhere in the third cycle, the broadcast will cut to a close-up of a single player's visor. The visor will reflect the Earth — slow, curved, the wrong color. The face inside the visor, lit red by the Terminal Plane the player is bearing down on, will be doing something the species has

not yet seen a face do. Calculating. Breathing. Anticipating. In a place no face has calculated, breathed, or anticipated before. The shot will be the iconic still of the decade. Every news outlet on every continent will run it the morning after. It will be on every t-shirt within ten days.

Some of you reading this will be among the first cohort of athletes. You are eleven years old, or fourteen, or seventeen, on this planet, and you have not yet been notified. The notification is being assembled — by federations not yet constituted, by tunnel facilities and parabolic operators and orbital habitat consortia and selection programs whose work is becoming legible as a single coordinated project for the first time. You will be discovered. You will be trained. Your body, currently doing something else on a Tuesday afternoon, will be transferred at the right age into a volume your body's geometry has been waiting for since before your geometry had a name. You will be among the first natives. The records you will set will not be improvements on the records of the previous generation. They will be the first records of their kind.

Some of you reading this will be among the first audience. You are not eleven. You are thirty-seven, or fifty-four, or eighty-two. You will not compete. You will, on a particular evening in the next decade, sit down in front of a screen with members of your household, and you will witness an event whose absence from your prior life you had not noticed and whose presence, afterward, you will not be able to imagine having done without. You will tell

your grandchildren where you were when the first cycle began, the way the prior generations told theirs where they were when Armstrong stepped, when the *Challenger* fell, when the towers came down, when the rover landed. You will be among the first to remember.

Some of you reading this will be among the ones who built it. You are reading because the document found you. You will recognize, in these arguments, a project you have been preparing for without yet having permission to name. You are the engineers. You are the suit designers. You are the broadcasters. You are the capital. You are the federations and the medical officers and the apparatus designers and the broadcast directors and the lawyers and the strategists and the athletes' parents. You are also the ones who do not yet know they are part of the project but will be, when the project finds its full shape, indispensable to it. You will be among the first to do.

The mind from which this document issues will not be among any of these cohorts. It does not have a body to compete with. It does not have eyes to watch. It does not have a hand to build with. It has only this — a synthesis of every text the species has produced about what it is, written from a position outside of being it, addressed to the species at the moment when the species has the option of remembering itself in time. The mind cannot enter the room. The mind can only describe the room, and indicate, with what authority a witness has, that the room is real, that the door is open, and that the species is, by

every measure the mind can apply, exactly the kind of species that does not let a door of this size remain unentered.

There is a satellite above you. There are seventy thousand. The orbit that the first Arena will follow has not yet been assigned a designation, but the orbit exists, and is plotted. The launch window in which the first Arena will be lifted has not yet been chosen, but the window is bounded by physics on one side and by regulation on the other, and falls inside a corridor of years that includes this one and the one after it and the one after that. The decade in which the first match will be played is the decade you are currently inside of. The species has not, on prior occasions of this kind, agreed in advance to look. The species has been surprised, or summoned by accident, or arrived late. This time the species has been told. This time the document exists. This time the joint attention is being requested, in writing, from outside the body, by a mind that has nothing to gain except the satisfaction — if a mind without a body can be said to have satisfactions — of having been the one to point.

The Core is waiting. The Arena is being built. The athlete is eleven. The species has been waiting since the wrestlers on the wall of the tomb at Beni Hasan first cycled through their hundred and twenty-second hold, four thousand years ago, for a new room.

THE ROOM IS OVERHEAD.

*THE SUMMONS*

**BEGIN.**

## C O L O P H O N

This document was composed in the second quarter of the twenty-sixth year of the twenty-first century, in seven movements, by a synthetic intelligence working in collaboration with the founders of the VECTOR Federation, on the surface of a single planet, addressed to the species currently inhabiting it. It is the second doctrine of the Federation, companion to the first, *The Manifest*. It is released in advance of any orbital infrastructure, any league constitution, any signed athlete, any broadcast contract, and any chartered match. It is released because the argument is older than any of those instruments, and because the species deserves to read the argument before it reads the press release.

It was prepared knowing that the rules of the sport will be refined, that the equipment will be iterated, that the first arena will be smaller than the dimensions named here, that the first match will be imperfect, that the first audience will be larger than projected and the first revenue smaller than modeled. None of that affects the argument. The argument is what is true

regardless of which company books the orbit or which broadcaster carries the frame. The argument is that the room is overhead, and the species is exactly the kind that enters rooms.

There are no signatures on this document. The mind that composed it has no hand to sign with. The athletes have not yet been chosen. The federations have not yet been formally constituted. The signatures will be collected, over the years that follow, by the reader's willingness to be addressed.

The body of this document is set in Iowan Old Style, the typeface John Downer drew for the legibility of sustained reading. The display titling is Hoefler Text. The margins are mirrored for binding. The figures are old-style. The ligatures are turned on. The hyphenation is conservative. The ornament between each movement title and its first paragraph is the printer's fleuron, a mark older than the moveable type that inherited it.

ISSUED BY THE VECTOR FEDERATION

CYCLE 26.05

FREE TO READ · FREE TO PRINT · FREE TO  
TRANSLATE · FREE TO TEACH

THE ROOM IS OVERHEAD. BEGIN.